

	Medupi Power Station Monthly Emissions Report	Template Identifier	240-43921804	Rev	7
		Document Identifier	240-88543153	Rev	2
		Effective Date	February 2025		
		Review Date	February 2027		

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Ref: H16/1/13-AEL/M1/R1 – May 2025

Dear Mr Koenaitse

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF MAY 2025

This document serves as the monthly emissions report required in terms of Section 7.7.1 of Medupi Power Station Provisional Atmospheric Emission License (AEL), H16/1/13-AEL/M1/R1.

This report reflects Unit 1, 2, 3, 5 and 6 gaseous and particulate emissions performance against the AEL limit for the month of May 2025 only.

1. Raw Materials and Products

TABLE 1: QUANTITY OF RAW MATERIALS AND PRODUCTS CONSUMPTION IN MAY 2025

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption – May 2025
	Coal	Tons/month	1 875 000	848 183
	Fuel Oil	Tons/month	20 000	1830
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of May 2025
	Energy	GWh	3 571.2	1 854.82
	Ash Emitted	Tons/month	not specified	307.1

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Date	Daily Reportable Hours of Operation						Coal usage	Production rate (MW)					
	U1	U2	U3	U4	U5	U6		U1	U2	U3	U4	U5	U6
01-May	24.0	24.0	24.0	0.0	24.0	0.0	24190	616	473	606	OFF	539	OFF
02-May	24.0	24.0	24.0	0.0	24.0	0.0	24513	676	470	585	OFF	537	OFF
03-May	24.0	24.0	24.0	0.0	24.0	0.0	26012	640	630	621	OFF	528	OFF
04-May	24.0	24.0	24.0	0.0	24.0	0.0	25965	618	607	614	OFF	508	OFF
05-May	24.0	24.0	20.3	0.0	24.0	0.0	26015	684	637	640	OFF	561	OFF
06-May	24.0	24.0	20.3	0.0	24.0	0.0	24232	603	580	616	OFF	550	OFF
07-May	24.0	24.0	24.0	0.0	24.0	0.0	26580	693	614	613	OFF	543	OFF
08-May	24.0	24.0	24.0	0.0	24.0	0.0	26763	646	624	678	OFF	557	OFF
09-May	24.0	24.0	24.0	0.0	24.0	0.0	26702	697	620	631	OFF	560	OFF
10-May	24.0	24.0	24.0	0.0	24.0	0.0	26549	608	608	612	OFF	529	OFF
11-May	24.0	24.0	24.0	0.0	24.0	0.0	26833	683	609	631	OFF	552	OFF
12-May	24.0	24.0	21.9	0.0	24.0	0.0	27169	682	633	648	OFF	550	OFF
13-May	24.0	24.0	22.4	0.0	24.0	0.0	28206	718	662	667	OFF	550	OFF
14-May	24.0	24.0	24.0	0.0	24.0	0.0	28846	693	653	703	OFF	620	OFF
15-May	24.0	24.0	24.0	0.0	24.0	0.0	29604	733	670	683	OFF	592	OFF
16-May	24.0	24.0	24.0	0.0	24.0	0.0	29072	706	664	598	OFF	672	OFF
17-May	24.0	24.0	24.0	0.0	24.0	0.0	28542	709	619	562	OFF	666	OFF
18-May	24.0	24.0	24.0	0.0	24.0	0.0	27973	666	635	584	OFF	647	OFF
19-May	24.0	24.0	24.0	0.0	24.0	0.0	29340	698	682	662	OFF	631	OFF
20-May	24.0	24.0	24.0	0.0	24.0	0.0	28687	691	668	611	OFF	634	OFF
21-May	24.0	24.0	24.0	0.0	24.0	0.0	30076	708	652	652	OFF	729	OFF
22-May	24.0	24.0	24.0	0.0	24.0	0.0	30368	761	672	658	OFF	730	OFF
23-May	24.0	24.0	24.0	0.0	24.0	0.0	29455	752	639	649	OFF	637	OFF
24-May	24.0	24.0	24.0	0.0	24.0	0.0	28971	775	654	582	OFF	652	OFF
25-May	24.0	24.0	24.0	0.0	24.0	0.0	28359	709	662	577	OFF	670	OFF
26-May	24.0	24.0	24.0	0.0	24.0	0.0	26960	740	714	616	OFF	385	OFF
27-May	24.0	24.0	24.0	0.0	24.0	0.0	27789	759	725	607	OFF	451	OFF
28-May	24.0	24.0	24.0	0.0	24.0	0.0	26968	746	549	608	OFF	513	OFF
29-May	24.0	24.0	24.0	0.0	24.0	0.0	26862	651	720	620	OFF	431	OFF
30-May	24.0	24.0	24.0	0.0	24.0	0.0	25967	697	666	575	OFF	362	OFF
31-May	24.0	24.0	24.0	0.0	24.0	0.0	24615	711	601	540	OFF	373	OFF

NB: Operating hours less than 24 highlighted in pink.

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2. Abatement Technology

TABLE 2: ABATEMENT EQUIPMENT CONTROL TECHNOLOGY EFFICIENCY FOR MONTH OF MAY 2025

Associated Unit/Stack	Technology Type	Efficiency	FFP Utilization
Unit 1	Fabric Filter Plant (FFP)	99.902%	100%
Unit 2	Fabric Filter Plant (FFP)	99.882%	100%
Unit 3	Fabric Filter Plant (FFP)	99.888%	100%
Unit 4	Fabric Filter Plant (FFP)	Off	Off
Unit 5	Fabric Filter Plant (FFP)	99.866%	100%
Unit 6	Fabric Filter Plant (FFP)	Off	Off

Note: FFP does not have bypass mode operation, hence plant 100% Utilised.

3. Energy Source Characteristics

TABLE 3: ENERGY SOURCE MATERIAL CHARACTERISTICS FOR THE MONTH OF MAY 2025

Characteristic	Stipulated Range (% by weight on a dry basis)	Monthly Average Content (% by weight on a dry basis)
Coal		
Sulphur Content	1.3 - 2.2	1.4
Ash Content	35 - 39	35.3

TABLE 4: ENERGY SOURCE MATERIAL CHARACTERISTICS FOR THE MONTH OF MAY 2025

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.300
Ash Content	0.02 - 0.1	0.030

4. Emissions Reporting

Medupi Power Station uses Continuous Emission Monitoring System which uses the extractive method for analysis.

The emission limits are as follows:

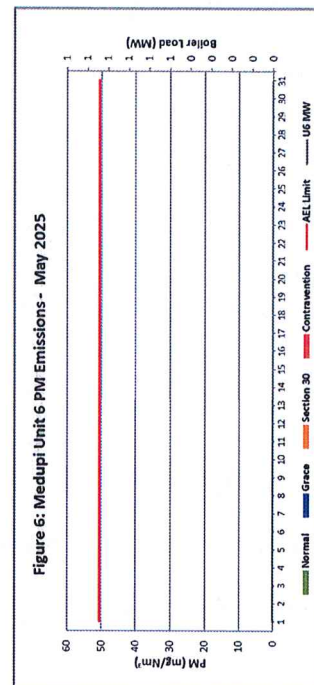
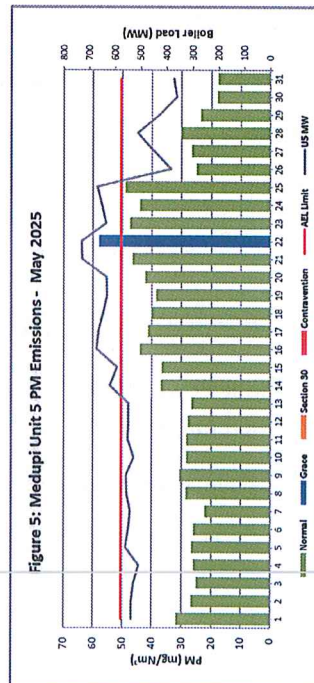
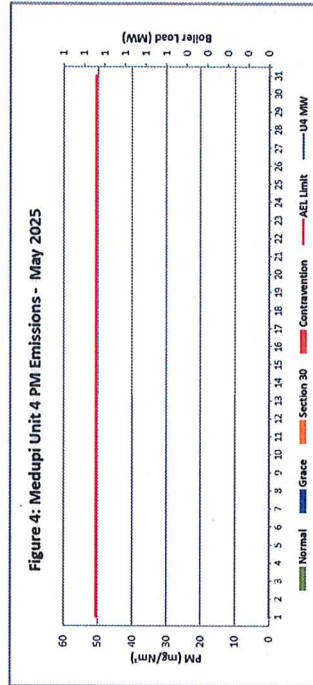
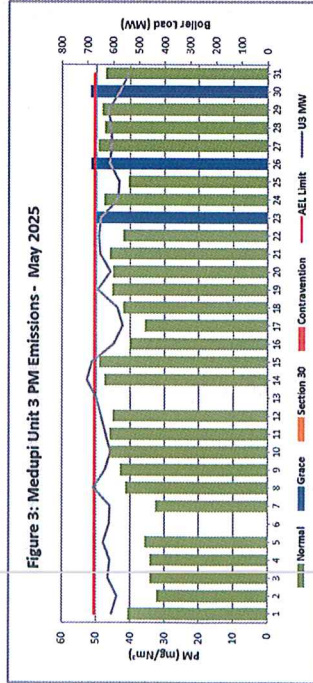
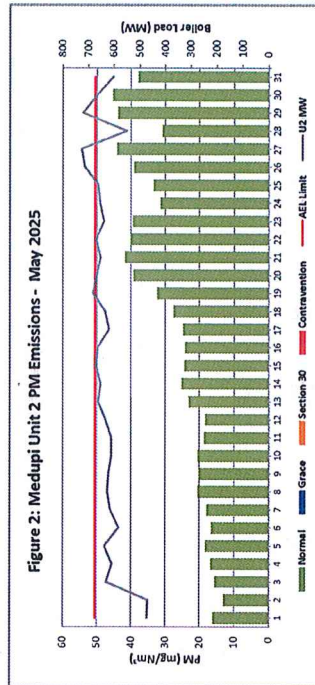
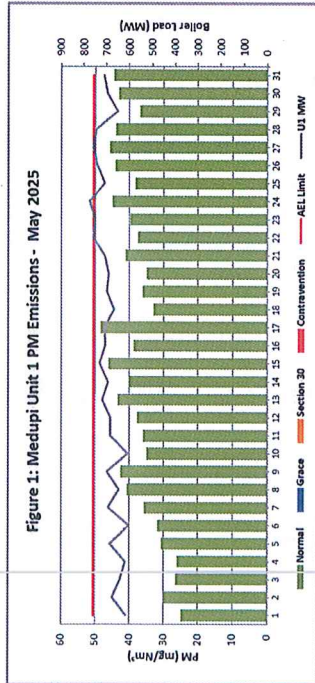
SO₂ Monthly = 3500 mg/Nm³

Dust Daily= 50 mg/Nm³

NO₂ Daily= 750 mg/Nm³

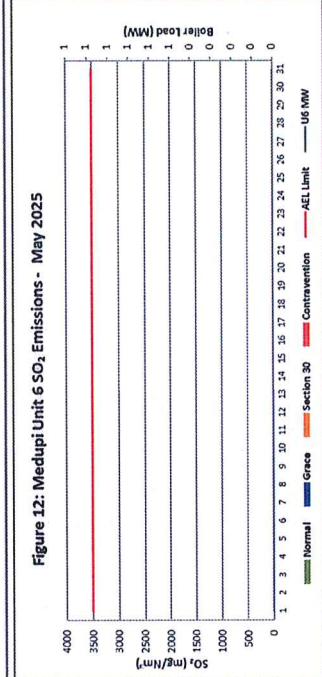
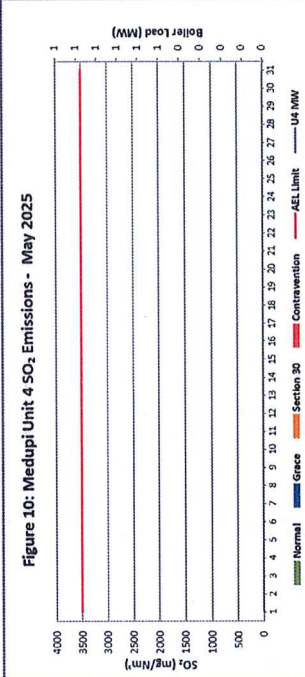
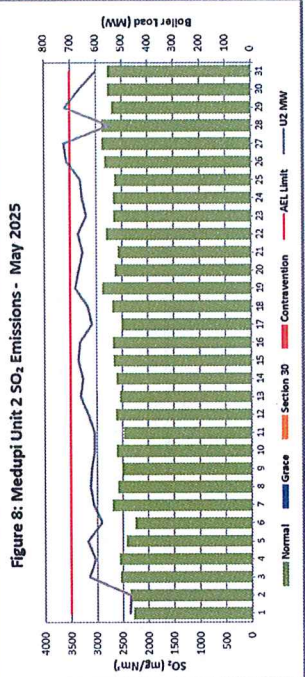
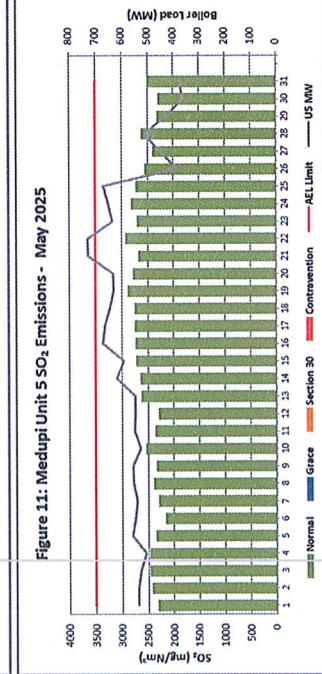
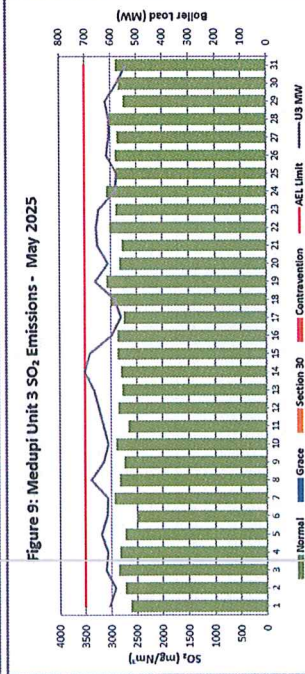
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4.1 PM Daily Averages



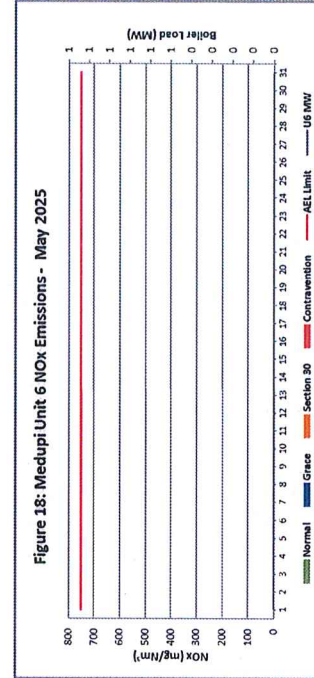
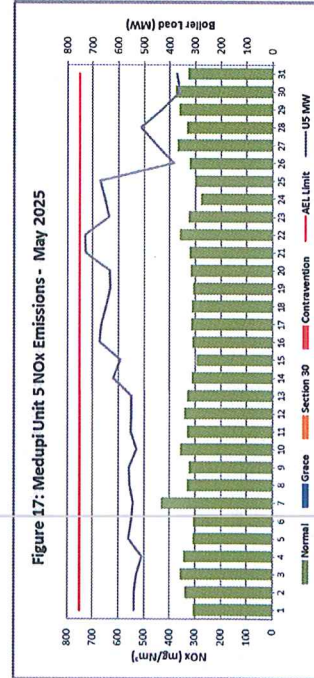
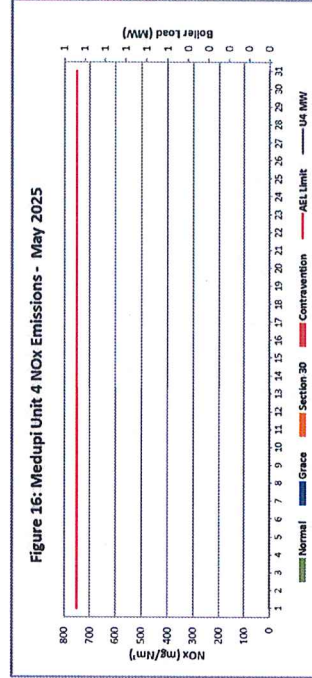
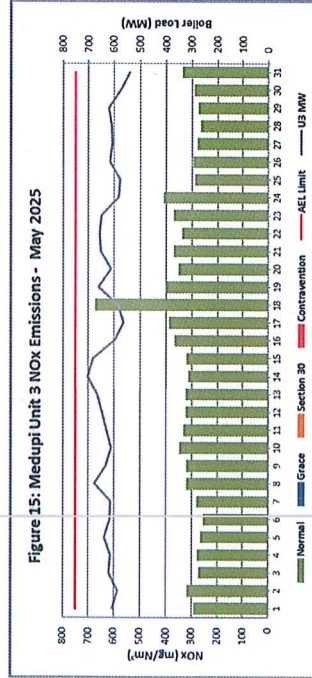
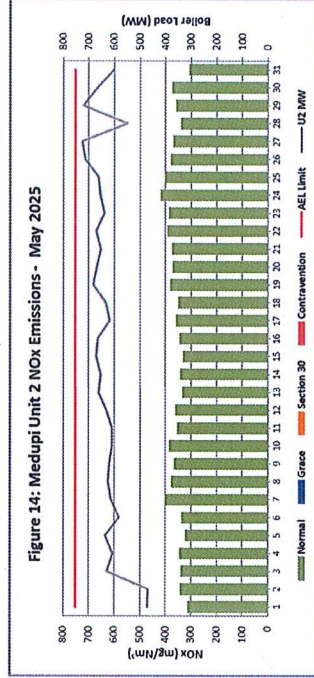
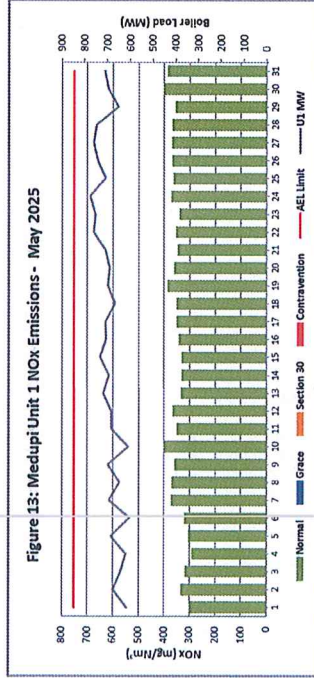
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4.2 SO₂ Daily Averages



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4.3 NOx Daily Averages



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TABLE 5: MONTHLY TONNAGES FOR THE MONTH OF MAY 2025

Associated Unit/Stack	PM	SO ₂	NO ₂
Unit 1	73.8	6 279.7	679.2
Unit 2	81.3	7 624.8	1 047.1
Unit 3	75.2	5 277.2	614.1
Unit 4	Off	Off	Off
Unit 5	76.8	5 749.5	740.7
Unit 6	Off	Off	Off
SUM (Tons)	307.1	24 931.2	3 081.1

TABLE 6: MONTHLY AVERAGES FOR THE MONTH OF MAY 2025

Associated Unit/Stack	Average PM (mg/Nm ³)	Average SO ₂ (mg/Nm ³)	Average NO _x (mg/Nm ³)
Unit 1	38.0	3 253.2	351.9
Unit 2	27.8	2 623.2	360.4
Unit 3	43.4	2 847.8	331.1
Unit 4	Off	Off	Off
Unit 5	32.9	2 542.1	331.6
Unit 6	Off	Off	Off

5. Continuous Emission Monitoring Systems (CEMS)

Unit 1, 2, 3, 5 and 6 Continuous Emission Monitoring Systems were always in operation when the unit was on load.

TABLE 7: PERIODS DURING WHICH CEMS WAS INOPERATIVE/MALFUNCTIONING

Date	CEMS status	Comments
NA	NA	No issues

TABLE 8: CEMS MONITOR RELIABILITY PERCENTAGE (%)

Associated Unit/Stack	PM	SO ₂	NO ₂	O ₂
Unit 1	100.0	100.0	100.0	100.0
Unit 2	100.0	100.0	100.0	100.0
Unit 3	100.0	98.4	98.5	100.0
Unit 4	Off	Off	Off	Off
Unit 5	100.0	100.0	100.0	99.9
Unit 6	Off	Off	Off	Off

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6. CEMS Calibration certificates and equipment used for calibration.

A service provider was appointed to calibrate CEMS equipment at Medupi Power Station, calibration certificates are in place and may be made available upon request. Verification of the CEMS after calibration is conducted internally by Eskom.

7. Ambient Air Quality Monitoring Report

The Ambient Air Quality Monitoring report and Dust Fallout report for the month of May 2025 were submitted in May 2025.

8. Visual inspection of the exterior walls of the fuel oil tanks and TVOC Estimation

Visual inspection was conducted and there were no leaks observed on the exterior walls of the fuel oil tanks.

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TABLE 9: TOTAL VOLATILE ORGANIC COMPOUND (TVOC) FOR MAY 2025

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	Friday, 30 May 2025	
Station:	Medupi Power Station	
Province:	Limpopo Province	
Tank no.	1-2	
Description:	Outdoor fuel oil storage tank	
Tank Type:	Vertical fixed roof (vented to atmosphere)	
Material stored:	Fuel Oil 150	
MONTHLY INPUT DATA FOR THE STATION Please only insert relevant monthly data inputs into the blue cells below Choose from a dropdown menu in the green cells The total VOC emissions for the month are in the red cells IMPORTANT: Do not change any other cells without consulting the AQ CoE		
MONTH:	May	
GENERAL INFORMATION:		
	Data	Unit
Total number of fuel oil tanks:	2	NA
Height of tank:*	14.2	m
Diameter of tank:	12	m
Net fuel oil throughput for the month:	1 830	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH		
	Data	Unit
Daily average ambient temperature	19.51	°C
Daily maximum ambient temperature	28.42	°C
Daily minimum ambient temperature	12.06	°C
Daily ambient temperature range	15.04	°C
Daily total insolation factor	3.91	kWh/m²/day
Tank paint colour	Aluminum/Specular	NA
Tank paint solar absorptance	0.39	NA
FINAL OUTPUT:		
	Result	Unit
Breathing losses:	0.70 kg/month	
Working losses:	0.05 kg/month	
TOTAL LOSSES (Total TVOC Emissions for the month):	0.75 kg/month	
*Calculations performed on this spreadsheet are taken from the USEPA AP-42- Section 7.1 Organic Liquid Storage Tanks - January 1996. This spreadsheet is derived from materials provided by Jimmy Peress, PE, Tritech Consulting Engineers, 85-93 Chevy Chase Street, Jamaica, NY 11432 USA, Tel - 718-454-3920, Fax - 718-454-6330, e-mail - PeressJ@nyc.rr.com.		

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9. Air quality improvements initiatives and public education and awareness campaigns

No awareness campaign was conducted for May 2025.

10. Complaints Register

TABLE 10: COMPLAINTS FOR THE MONTH OF MAY 2025

Name/ Source Code	Air pollution complaints received	Calculation of Impacts/ emissions associated with the incident	Date of complaint and date of response by the license holder	Results of investigation	Action taken to resolve the complaint
NA	NA	NA	NA	NA	NA

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Compiled By: Thabo Khoza
Senior Advisor
Environmental Management



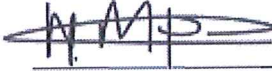
Date: 23/06/2025

Verified by: Malose Langa
System Engineer Boiler



Date: 2025/06/23

Verified by: Shu Mpangase
System Engineer C&I



Date: 2025/06/24

Supported by: Mokgadi Dikgale
Environmental Manager



Date: 2025/06/24

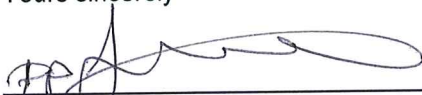
Supported by: Sithokozile Hlongwa
Engineering Group Manager



Date: 2025..06.25

I Thozama Gangi, declares that the information provided in this report is accurate and correct.

Yours sincerely



Thozama Gangi

GENERAL MANAGER (Acting): MEDUPI POWER STATION

Date: 2025/06/25

